

**Notice of Allowability**

Application No.

09/816,135

Examiner

Jerome Grant II

Applicant(s)

SATO, KAZUHIKO

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-31.
3. ☒ The drawings filed on 26 March 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☒ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

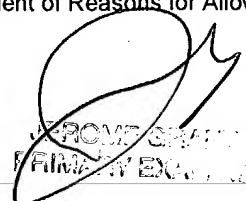
\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 10-18-2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
APPROVED FOR  
FILING

**Reasons for Allowance**

**Claims 1-4 are allowed for the reason the prior art does not teach or suggest in claimed combination, "... a specified portion detecting unit that detects specified portion in which gradation of the image data varies slowly from the predetermined region of said image data stored in the image data storing unit; a and an intermediate density data generating unit that generates intermediate density data composed with step smaller than the minimum value of a step between different gradation levels of said image data based on the result of detection by said specified portion detecting unit."**

**Claims 5-8, 21-29 are allowed for the reason the prior art does not teach or suggest in claimed combination, "... an image data operation processing unit that detects a portion containing said remarked pixel in which gradation of the image data varies slowly by calculating variation of gradation of image data in said surrounding region stored in the register, and generates intermediate density data composed with step smaller than the minimum value of a step between different gradation levels of image data."**

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**Claims 9-11 are allowed for the reason the prior art does not teach or suggest in claimed combination, "... wherein if the difference between said maximum value and said minimum value is equal to or less than the predetermined value, said gradation enhancement process on/off deciding unit is turned on to output and reproduce an image having a greater number of gradation levels than that of input image data, while if the difference between said maximum value and said minimum value is greater than the predetermined value, said gradation enhancement process on/off deciding unit is turned off to output and reproduce an image having adopted said average value as gradation level ..."**

**Claims 13-16 are allowed for the reason the prior art does not teach or suggest in claimed combination, "... coincidence detecting unit that detects whether or not a combination of a plurality of pixels in a template stored in the template storing unit coincides with the combination of said remarked pixel and pixels in region surrounding the pixel stored in the register... wherein if coincidence of said two combinations with each other is detected, an image having a greater number of gradation levels than that of said input image data is output and reproduced based on corresponding gradation in said template."**

**Claims 17-19 are allowed for the reason the prior art does not teach or suggest in claimed combination, "... a difference template storing unit that stores in advance the correspondence between difference data of arbitrary pixel in said**

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surrounding region and gradation having a greater number of gradation levels. than that of input image data as difference template; and a difference coincidence detecting unit that detects whether or not difference data in difference template stored in said difference template storing unit coincides with the difference data stored in said second register; wherein if it is detected that the two difference data coincide with each other, an image having a greater number of gradation levels than that of said input image data is output and reproduced based on the corresponding gradation in said difference template.”

Claim 30 is allowed for the reason the prior art does not teach or suggest in claimed combination, “... detecting a specified portion in which gradation of the image data varies slowly from the predetermined region of the stored image data... generating intermediate density data composed with step smaller than that minimum value of a step between different gradation levels of said image data, based on the detection result of the specified portion...”

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Grant II whose telephone number is 703-305-4391. The examiner can normally be reached on Mon.-Fri. from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A Williams, can be reached on 703-305-4863. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

J. Grant-II

JEROME GRANT II  
PRIMARY EXAMINER